

## MISCELLANEOUS NOTES

I. INTERACTION OF THE PIG-TAILED MACAQUE *MACACA NEMESTRINA LEONINA* WITH OTHER PRIMATES IN SOME FORESTS OF ASSAM IN NORTH-EAST INDIAANWARUDDIN CHOUDHURY<sup>1</sup>

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The Pig-tailed Macaque *Macaca nemestrina* Linnaeus, 1766, is a relatively poorly documented primate; its elusiveness and furtive behaviour being the main reasons for such poor studies. As such based on field studies, their ecology and social behaviour have been difficult to analyse (Bernstein 1967; Caldecott 1986). Its range extends from North-east India, South-west China, Indo-China and Peninsular Malaysia to several Indonesian islands (from lowland to about 1,300 m altitude) (Groves 1993; Choudhury 2003). The subspecies found in north-east India is *leonina* (Fooden 1975). Groves (2001) proposed full specific treatment for this subspecies. The *leonina* is also known as the Northern Pig-tailed macaque, which is found from North-east India, to Indo-China.

Some of the works available for *leonina* are by Pocock (1931, 1939), McCann (1933), Fooden (1975), Choudhury (1988, 1989, 1993, 1995, 1996, 2002, 2003, 2008), Tilson (1982) and Feeroz *et al.* (1994). Between 1986 and May 2006, several field surveys were carried out in some potential habitats of the Pig-tailed Macaque in North-east India, as a part of a broader survey of wildlife in general. In this note, some interesting observations on interactions between pig-tails and other primate species are presented.

The main observations are from Bherjan-Borajan-Podumoni WS (27°25'-32' N; 95°19'-23' E) in Tinsukia district of eastern Assam. Located on flat terrain (110-130 m above msl), this small sanctuary of three disjunct blocks is covered by partially degraded tropical wet evergreen or rainforest and deciduous plantations.

In its range in northeastern India, the Pig-tailed Macaque is sympatric with at least seven different species of primates, namely loris, three macaques, two colobines and an ape. Almost throughout its range, the Pig-tailed Macaque shares its habitat with the Slow Loris (*Nycticebus bengalensis*), Assamese Macaque (*Macaca assamensis*), Rhesus Macaque (*M. mulatta*), Stump-tailed Macaque (*M. arctoides*), Capped Langur (*Trachypithecus pileata*) and Hoolock Gibbon (*Hoolock hoolock*). In the southern part of its range in the region, it is also sympatric with Phayre's Leaf Monkey (*Trachypithecus phayrei*).

Interactions with Capped Langur, Assamese Macaque,

Rhesus Macaque, and Hoolock Gibbon have been observed in the wild during this study. Capped langurs and Pig-tailed macaques were seen nearby without any antagonism. Both were indifferent towards each other; however, they were not seen on the same tree. The Pig-tailed also maintained a peaceful coexistence with Assamese macaques. In fact, the home range of two groups of Pig-tailed macaques is shared with three groups of Assamese macaques in the tiny Bherjan forests (105.5 ha). Whenever the two species were clearly visible to each other, even feeding close by, the adults usually avoided direct eye contact, but the immatures stared at each other. Solitary males were usually not tolerated. Once a solitary Assamese Macaque jumped from a tree to a shrub where some female and juvenile Pig-tailed macaques were feeding, the latter chased the intruder away by squealing and screaming (Bherjan forests; August 01, 1992). The Assamese Macaque group that was feeding close by reciprocated by barks and screams, but with no posture or gesture. On another occasion, an Assamese Macaque moved to a shrub where some female and immature Pig-tailed macaques were feeding, although the former did not show any aggression, the latter fled from the tree uttering low squeals (Bherjan forests; May 31, 1993). The best example of coexistence between these two species of macaques was observed in Bherjan forests on August 15, 1992. A group of Pig-tailed macaques were busy feeding on *Sapium baccatum* fruits, when a group of Assamese macaques came to a nearby tree. The Assamese macaques waited without any agonism, gesture or posture, and made no attempt to chase or disturb the feeding Pig-tailed macaques. It was only when the latter had finished eating that the former took over.

There were a few interesting interactions with lone Rhesus macaques. No sympatric primates, Assamese, Pig-tailed and Stump-tailed macaques, seemed to tolerate the presence of a lone Rhesus Macaque in their vicinity when it tried to approach females of other species. On one occasion the presence of a lone male Rhesus Macaque prevented a group (eastern group in Bherjan forests) of Pig-tailed macaques from travelling through a certain path. The alpha male Pig-tailed Macaque moved first; the Rhesus Macaque

tried to frighten it by violently shaking the branches, but with no success. When he was within 20 m, the Rhesus Macaque fled. Then the whole group moved through behind the alpha male. In the same forest, two Rhesus Macaque males, an adult (it was excited with raised and curled-up tail), and a subadult moved near a group of Pig-tailed macaques, the latter did not panic but barked *hrr, hrr* (July 30, 1993).

In Borajan forest, a subadult Rhesus Macaque male was observed moving towards a group of Pig-tailed macaques that were busy feeding. The alpha male Pig-tailed Macaque immediately reacted by barking *hrr, hrr*, and making threatening gestures and postures. The females and immature screamed (visibly frightened at the sight of just one subadult Rhesus Macaque) – it was a very noisy scene. The Rhesus Macaque did not panic and remained there. It also once made a threatening gesture by leaning forward. The ‘aggressive’ behaviour continued for about eight minutes, after that the Rhesus Macaque went away ‘normally’. In the whole aggression, there was no actual attack (September 10, 1993).

A largely peaceful coexistence was also noticed with Hoolock Gibbon in several sites such as Borajan, Upper Dihing, and Nambor; however, in Bherjan the interaction was extraordinarily noteworthy. When I started observation in Bherjan in July 1992, only a lone female gibbon was there. Since it was alone for at least 3-5 years, it developed a relationship with the Pig-tailed macaques, but not the Assamese macaques. Occasionally the gibbon will make warning growls. The juvenile macaques (not adults) often playfully chase the lone gibbon for a short distance (latter moves away slightly

and did not make any attempt to hold ground). They started travelling together, gibbon just following the Pig-tailed Macaque group and also feeding in the same general area.

Some interesting observations were: On July 30, 1992, the Pig-tailed Macaque group (western group of Bherjan forests) and the lone Gibbon were seen sitting in different trees located closeby. No antagonism was noticed; however, when a female macaque came to the same tree and sat near the gibbon, she was driven away. On August 01, 1992, the Gibbon was feeding on a fruit of *Artocarpus chaplasha*, when a subadult Pig-tailed Macaque snatched it, the gibbon did not react. On August 24, 1992, a subadult Pig-tailed Macaque chased the Gibbon playfully, the latter did not react but moved away. On October 03, 1992, while the macaques and the gibbon were together, the latter suddenly started calling at 0830 hrs, the loud call apparently frightened some immature Pig-tailed macaques as they were very near. The screaming of the immature caught the attention of the adult macaques, which uttered warning barks, following which the call of the gibbon also stopped. However, two subadult macaques charged at the gibbon and one of them actually came into physical contact, but without hurting any of them. After this attack the gibbon was never seen with the group during the study period for the next two years.

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